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THE
Anatomy and Physiology
OF THE
GENERATIVE ORGANS
OF
DOMESTIC ANIMALS,

Including the Scientific and Common Sense
View of Preventing Animals from
Getting with Young.

BY DR. D. W. MOTT,
CINCINNATI, OHIO.

INDIANAPOLIS:
SENTINEL COMPANY, PRINTERS,
1874.

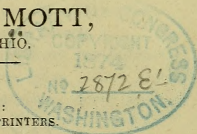


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PREFACE.

Progress and improvement characterize almost every art and science, and within the last few years the science of Anatomy and Physiology have received many important additions.

The design of the following pages is to enable farmers and stock raisers to successfully spay their female animals with great rapidity, and without the slightest danger of the loss of any of them.

The aim of the author is to present *full* and *conclusive* proofs, drawn from the best scientific and practical men, of all the different organs that enter into the *germ*, and directly aid it in becoming a living animal.

A vocabulary has been introduced to aid the reader in acquiring a full and clear knowledge of all the technical and scientific words which the author has been compelled to use, in order to demonstrate the various themes herein taught.

The author gratefully acknowledges his indebtedness to the learned authors from whom the several quotations and illustrations have been copied.

PREFACE

The present and important character of the work
every one must suppose, and would the Editor have
the pleasure of presenting and I hope to have
of the many papers in this volume.

The Editor of the following papers is in a
fortunate position to refer to a considerable number of
papers written with great rapidity and without
the slightest character of the loss of any of them.

The Editor of the present paper is in a position to
refer to a number of papers from the first volume and
to refer to all the different papers in the
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THE GENITAL ORGANS DESCRIBED.

Mammalia is a word used to comprehend all animals which suckle their young. Hence, in describing the genital organs of the *sow* and the *heifer*,—which is the aim of the author—the same description is likewise applicable to all other female animals, with but one exception, and that is the water-mole.

With this brief sketch of the sameness of the generative organs, we proceed to their description.

They are divided by the best anatomists into the *external* and *internal*, or with regard to their functions, into *copulative* and *formative*. The external or copulative consist mainly of the labia, the clitoris gland and the clitoris. The internal or formative consist of the *vagina*, the *womb*, the *oviducts*, the ovaries and the *clitoris gland*.

Now we have classed the *clitoris gland* with both the external and the internal organs, and the reason we have done so, is because it is a formative as well as a copulative organ. The labia, lips, are two folds of skin externally, and mucus membrane internally, continued upwards and surrounding the orifice, or vaginal opening; their use is to pro-

tect the sensitive organs contained between them, and at the time of the birth of the young to facilitate the distension or spreading of that orifice. The *clitoris* is the analogue of the *penis* in the male. That is, it is a body protruding from one-half to one inch beyond the external parts, the end of which is sometimes called the teat or water-spout. It has the power of erection, and is situate just beneath the orifice.

THE CLITORIS GLAND,

The most important of the external organs, and which will hereafter be shown to have direct communication, or functions, directly connected with the ovaries and oviducts; is a glandular body somewhat larger than a pea, and is found beneath and partly imbedded in the *clitoris*.

The vagina is that hollow or opening beneath the anus, and extends inwards till it connects with the womb, or mother-sack.

THE WOMB,

Which organ in the sow we call the *pig-bag*, is a muscular organ capable of great distention, as may be seen when the *young* is being expelled. When it contains no young it varies in size in different animals; in the *pig* it is from one-half to one inch in thickness, and from one to three inches in length. And in some animals we find a *double womb*; that is, we find a septum dividing it into two parts, having two orifices or mouths looking or opening into the vagina. See Carpenter's Elements of Physiology, p. 447.

OVIDUCTS, OR FALLOPIAN TUBES.

The oviducts in most animals appear to be only the separation of the womb into two small tubes or pipes, each of which curves round near to, and upon its ovary; and at the ovaric end each has a fimbriated or fingered extremity or mouth, the use of which mouth is to grasp the ovary and squeeze out the egglets at the time of the *heat* or *rut* in the animal.

The ovaries are two small organs situate at either side of the womb, and connected with it by a band called the ovarian ligament.

ARTERIES AND NERVES.

Arteries are the cylindrical tubes which convey the pure blood from the left ventricle of the heart to every part of the body. Nerves are the organs of sensation and motion in animals. They are the medium or telegraphic communication between the brain and every other part of the body. The blood furnishes the food or nourishment for the proper growth and development of an organ, while the nervous system sends the motive power, giving motion and sensation.

Without the *arterial* power the organ must fade and dwindle; without the nervous power the organ is useless; and without both, the death of the organ is certain. The *ovaric* or *spermatic* arteries, two in number, are the *only* arteries that supply the *oviducts*, *ovaries* and *clitoris gland*. They are two small vessels which arise from the front of the great artery, *aorta*, below the mesenteric; from thence each artery passes obliquely outwards accompanying the corresponding ureter along the front of the

psoas muscle to the border of the pelvis. It is then directed outwards to the internal abdominal ring, and follows along what is termed the *spermatic canal* to the *clitoris gland*; from thence it passes along the muscular coat of the *vagina* and *womb* till it reaches the oviducts and ovaries, where it spends its force, distributing its various branches to the organs last named. It sends out but one branch from its origin till it reaches the oviducts, and that supplies the *clitoris gland*.

NERVES.

The *spermatic* or genital branches of the genito-crural nerves proceed from the second *lumbar* nerve, and cross the *psoas* muscle, from whence they follow the course and accompany the aforesaid arteries to the *clitoris gland*, and thence to the *ovaries* and *oviducts*.

PERIODICAL HEAT—SEXUAL EXCITEMENT.

The reader will readily observe that the distribution of the arteries and nerves above alluded to, solely to the *clitoris gland*, the oviducts and ovaries, at once indicate that they *do*, and of right should become heated and excited at the self same time. Now, as evidence tending to establish what arteries and nerves *do* enter into and cause the heat and prepare the *germs*, *ova* or *eggs* for ready expulsion; we beg to refer the reader to that celebrated work of Prof. C. D. Meigs, on females and their diseases. At page 386 he says, "*the stoma of the ovary is produced by the ovaric artery and nerve. I say produced by them for it was originally evolved by them, and is constantly fed and*

maintained in its rate of size, weight, and functional power by them as the source whence are derived all the accretions required by the momentary waste or life combustion of its molecules. What a curious speculation it is that this long, wandering ovaric artery and spermatic nerve, should be the *only* artery and the *only* nerve in the whole economy capable of producing vitellus or yelk matter; for after all that *can* be said, they *do* produce it, and *they* alone."

M. Pouchet in his fine work, at page 262, while refering to the menstrual, or *heat* period of the *sow* says: "She exhibits in the vagina, a rose tint, and a small quantity of mucus; the microscope shows that this discharge is composed of fragments of epithelium, whether pavimented or cyndrical, globules of mucus, and also a *very small* proportion of blood-corpuscles."

His beautiful plates XIV and XV, representing these appearances in the *sow* and the rabbit at the time of the *erotic excitement*; which he declares to be regularly periodical, and accompanied with said discharge. See, also, said Meigs' work, at page 390.

DISCHARGE OF EGGS DURING HEAT PERIOD.

In Prof. C. D. Meig's work, at pages 391 and 392, while speaking of the *egg deposit* in woman, says: "I can conceive that enough has been said to convince you that the ovulation and spontaneous deposit of ova is completely independent of the Sexual Congress, and you ought to add, completely independent of, and disconnected with, any sexual sense or sentiment in the human being, *though it is far otherwise in the lower mammals.*"

In Carpenter's principles of Human Physiology, sec. 853, we are told by this great experimenter, that "much discussion has taken place respecting the *causes* and *purposes* of the Menstrual flow; and recent inquiries have thrown great light upon them. The state of the female generative system during its continuance, appears to be analagous to the *heat* or periodic sexual excitement of the lower animals." Dr. Robert Lee, M. M., Gendrin and Raciborski, contended years ago, that the heat period of animals was directly connected with the *maturation* and discharge of the *ova*.

EACH NERVE HAS ITS SPECIAL OFFICE TO FILL.

Henry Goadby's Text Book on Animal and Vegetable Physiology, at page 236, sec. 1060, says: "Nerves po-*ssess* distinct *functions*; thus a nerve of *sensation* has no power to direct or organize motion.

A nerve of *vision* can not perform the function of *smell*, *taste*, *hearing*, or *touch*; neither can the nerves of one organ *assume* the function of the nerves delegated to another organ; each has its own duty to perform, preserves its individuality, and is so far distinct."

GERM OR EGG.

It is universally admitted that the female animal furnishes the germ or egg, and that they are produced in the *stroma* of the ovary, by the combined influence of the arteries and nerves before alluded to. Let us see if animals do produce eggs, and as evidence of the fact, we will again call attention to the works of Dalton and Carpenter on Physiology, and Prof. Meigs' work on the Diseases of

Woman, at page 382, of the last named author. He says : " All the Mammalia are likewise reproduced from germs contained within true vitelary bodies or eggs. The egg of a barn-door fowl is not more perfectly an egg, than is the microscopic egglet you find in the Graafian Follicle of a cow, a mare, a sheep, a sow, a dog, or a whale. Each egg contains not only its germ, but its yolk."

REPRODUCTION.

Reproduction, in a Physiological sense, is replete with questions of interest in the study of its various phenomena, and is worthy of the most profound contemplation. Indeed, it is a sort of mystery in which science alone is able to penetrate and make plain. The first act in the reproductive scheme, is intercourse or congress of sexes, and the result of the congress is fecundation. Fecundation, then, consists in imparting life, or fertilizing the germ or egg furnished by the female. Therefore, germination or reproduction in animals is the joint product of the male and female. We have shown that the germ is the natural production of the female ovaries, brought about by the combined influence of the arterial and nervous force, generated solely by the arteries and nerves heretofore named and described. Now the germ remains wholly neutral or negative in its results until a special influence be given to it by the male. The question then arises, what is this influence? If a germ becomes impregnated, it is the result of the spermatic fluid which is secreted by the male coming in contact with said germ, and imparting to it its vivifying material; and as soon as this is accomplished the process of development commences, and from that time the

mother animal furnishes all that is requisite to keep and sustain it till it is ready to be expelled from the womb through the vaginal canal. Every person can readily understand that it is the duty of the female to furnish the egg, while the office of the male is limited to that simple yet all-important act of vitalizing it. Believing that enough has been said about the mode employed by nature to fertilize and evolve a new creature; the remaining inquiry, and the one altogether most useful to the farmers and stock-raisers, is to ascertain if a *sure* method can be adopted to prevent female animals from getting with young!

SPAYING—COMMON SENSE VIEW.

Before we draw a final conclusion from the foregoing statements and facts, let us refer again to the work of Prof. C. D. Meigs, at page 118, where he says, "it is true that the aphrodisiac nature attends upon the ovaria as its prime source and sustainer, and is most perfect when they are in their highest state of health and power; yet there is an *unknown connection* and relation of this power as resident in the ovaria to the means of exciting it as resident in the tentigo, myrtis, dulcedo amoris or clitoris, and its congenerous tissues." Now take this passage, written thirty years ago, and the new light that has been shed upon this topic by Dalton, Carpenter, Goadby and others who conclusively show and demonstrate that the oviducts grasp the ovaries and squeeze out the eggs at the time of the external *heat*, and at no other time; and that all this periodical work is accomplished by the *arteries* and *nerves* heretofore described. We may with Sir Isaac Newton exclaim, *Eureka*, we have found

it, and that to in simply severing the said arteries and nerves where they crop out near the surface in the *clitoris gland*. Before we give directions for operating, we ask the reader to carefully investigate the well established facts herein enunciated, as we are convinced that none can find aught against the mode of operation, or who will not be persuaded by the stubborn facts herein set forth of the great advantages that must *ensure* to every farmer who will but heed the teachings of science and the experience of practical men during the last five years in several of the States where it has stood the test.

PRACTICAL DIRECTIONS FOR SPAYING.

The reader who has but casually read this book will at once be able to perform this simple yet effectual operation of spaying, which consists only in extirpating or cutting out the *clitoris gland*. Therefore first feel for the gland, which can readily be found, and make an incision beneath and below it, then turn the knife upwards and outwards, and peel out the gland, and you have in that little operation bi-sected or cut a piece out of both arteries and nerves, and thus *forever* prevent another union.

VOCABULARY.

Analogue—A thing resembling another; like unto.

Anatomy—The art of dissecting or separating the animal structure.

Anus—The opening of the body by which the excrement is expelled.

Aorta—The great artery leading from the heart.

Aphrodisiac—The act of exciting sexual desire.

Applicable—That may be applied; suitable to be applied.

Blood-corpuscle—A minute particle, or atom of the blood.

Clitoris—The body protruding from the genitals; the water-spout.

Clitoris-gland—A round body attached to, and beneath the water-spout.

Coalescence—The act of growing together.

Congestion—An unnatural accumulation of blood in any part of the body.

Copulation—Connection of sexes.

Domestic—Tame animals.

Dilatation—The act of spreading or expanding.

Distention—The act of spreading in all directions.

Facilitate—To aid or make easy; less difficult.

Fallopian tubes—Oviducts; two small pipes that carry the eggs or germs to the womb.

Fecundation—The act of getting with young.

Fertilize—To make fruitful.

Formative—Aiding in giving form, shape and life.

Function—Office; duty; employment.

Generation—Here used for new life or begetting young.

Genital—The Organs employed by nature to beget new life.

Germ—The bud, cup, or egg, furnished by the female genital organs.

Gland—A soft fleshy organ.

Glandular—Consisting of the substance of glands.

Imbedded—Laid or inclosed partly in.

Impregnated—Fecundated; made prolific.

Labia—Lips; the fleshy part surrounding the opening of the vagina.

Mammals—An animal that suckles its young.

Matrix—Pig bag; mother sack.

Medicated—Supplied with an unknown power.

Microscopic—Very small; minute.

Oestrual—The heat period in animals.

Organ—The natural instrument through which some process is carried on.

Orifice—The mouth of the vagina.

Ovary—An organ that furnishes the egg in female animals.

Ovulation—Egg laying.

Pelvis—The long cavity supported by the hind legs.

Placental—The after-birth; the substance that connects the ovum to the womb.

Physiology—The science which treats of the use of the several organs of the body.

Protruding—Thrusting out, or beyond.

Rodentia—A class of animals, as the rat tribe, &c.

Reproduction—The act or process of reproducing that which has been destroyed.

Sexual—Pertaining to the sexes, as male and female.

Sperm—The peculiar fluid thrown out by the male
• organs.

Spontaneous—Acting by its own impulse.

Stroma—The substance contained in the ovary.

Uterus—Womb, or pig bag.

Uterine—Pertaining to the womb.

Vagina—A canal leading from the external parts to the womb.

Virgin—An animal that has not been with young.

Viscus—A body contained in the belly of an animal.

Vitalizing—Furnishing the life.

Vivifying—To give life, or to fertilize.

Womb—A hollow muscular organ; the matrix; the pig bag.

Yolk or Yelk—The yellow part of an egg, or germ.

OBLIGATION OF SECRECY.

The undersigned.....
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use this book, agrees to keep its contents a secret,
and not permit any one to gain the knowledge
herein contained, or any part thereof, without the
written consent of the author.

In witness whereof, I have hereunto set my hand
this.....day of.....187...

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